That which is claimed is:

1. A method of producing a lenticular sheet having anisotropic optical properties comprising the steps of:

providing a substrate of transparent material having a first side and a second side and an index of refraction greater than one; and

forming a plurality of lenses on the first side of the substrate in pre-selected portions thereof,

wherein the remainder of the first side outside the pre-selected lens portions is unaltered.

2. The method of claim 1, wherein the step of forming the plurality of lenses in pre-selected areas further comprises the steps of:

creating as cutting tool;

engraving a plate or cylinder with cutting tool to form an inverse lens pattern in pre-selected areas;

using the engraved plate or cylinder in an extrusion embossment process such that the substrate can be embossed with the lens pattern.

3. The method of claim 2, wherein the step of engraving the plate or cylinder further comprises the steps of:

utilizing a computer to control and direct the direction and depth of the engraved lens pattern.

4. The method of claim 1, wherein the step of forming the plurality of lenses in pre-selected areas further comprises the steps of:

engraving a plate or cylinder with a desired lens pattern;

masking desired portions of the engraved plate or cylinder;

electroplating the plate or cylinder with a metal;

cutting back the electroplated metal to a desired level; and

removing the masking from the desired lens pattern; and

using the resulting plate or cylinder in an extrusion embossment process such that the substrate can be embossed with the remaining lens pattern.

5. The method of claim 1, wherein the step of forming the plurality of lenses in pre-selected areas further comprises the steps of:

engraving a plate or cylinder with a desired lens pattern;

removing undesired portions of the lens pattern from the plate or cylinder using a gravure engraving process; and

using the resulting plate or cylinder in an extrusion embossment process such that the substrate can be embossed with the remaining lens pattern.

6. The method of claim 1, wherein the plurality of lenses comprises two or more different types of lens patterns.

7. The method of claim 1, wherein said sheet can be reverse printed by lithography, gravure, flexography, ink jet or screen.

8. The method of claim 1, wherein said substrate can be produced from any clear plastic sheet consisting of polyester, polycarbonate, acrylic, polyolefin, polyvinyl chloride or any energy cured thermo set resin.

9. The method of claim 4, wherein the smooth areas are delustered by chemical etching or patterned by mechanical means.

10. The method of claim 4, wherein the plating in the smooth areas is cut to a level higher than a selected lens area to provide a thinner plastic sheet in the smooth areas.

11. The method of claim 4, wherein the plating in the smooth areas is cut to a level lower than a selected lens area to give a thicker plastic sheet in the smooth areas.

12. The method of claim 4, further comprising the step of engraving register marks and bands into the cylinder or plate for use in slitting, sheeting and reverse printing the sheet.

13. A method of manufacturing a lenticular sheet comprises the steps of:

engraving a desired lens pattern into a surface metal of a flat metal plate or a cylinder, wherein the surface metal of the plate or cylinder in which the pattern is engraved into is loosely bonded to a base thereof and can be removed to become an engraved metal shell;

cutting the engraved the metal shell to the desired shape; and

fastening the metal shell to the cylinder or plate to be used to produce the transparent patterned sheet such that the lens pattern runs along a pre-selected direction.

14. A method of producing a lenticular sheet having anisotropic optical properties comprising the steps of:

providing a substrate of transparent material having a first side and a second side and an index of refraction greater than one; and

engraving a plate or cylinder with an inverse lens pattern in pre-selected areas; and

using the engraved plate or cylinder in an extrusion embossment process such that the substrate can be embossed with the lens pattern,

wherein the remainder of the first side outside the pre-selected lens portions is unaltered.